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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,729	10/29/2003	Scott Freeberg	279.652US1	6340

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EXAMINER
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HOLMES, REX R

ART UNIT	PAPER NUMBER
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3762

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/696,729	<b>Applicant(s)</b> FREEBERG, SCOTT	
	<b>Examiner</b> REX HOLMES	<b>Art Unit</b> 3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7,9,11-40 and 42-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,11-40 and 42-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/30/08 has been entered.

### ***Response to Arguments***

2. Regarding claims 1, 11, 14, 25, 29, 46 and 53, Applicant argues that Daum only finds a relationship to the impedance values and not to the ventilation rates. It is noted that transthoracic impedance is proportional to respiratory rate. Thus the relationship between the impedances and the relationship between the respiratory components are equivalents (Col. 1, ll. 35-48). Applicant further argues that Daum does not teach a processor adapted to compare impedances. Daum discloses that after it senses the signals it further scales the signals. The scaling of the signals is the calculated comparison of the signals.

3. Regarding claims 1, 11, 14, 25, 29, 46 and 53, Applicant further argues that Wang only finds a relationship to the impedance values and not to the ventilation rates. It is noted that transthoracic impedance is proportional to respiratory rate. Thus the relationship between the impedances and the respiratory component are equivalents (Paragraph 95). Applicant further argues that Wang does not teach a processor to

calculate a comparison. The examiner respectfully disagrees. Wang senses the signal and then checks the integrity of the leads based on this signal. The result of the lead diagnostics is the comparison of the signals (Fig. 11).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 9, 11, 13-16, 19-20, 23-26, 28-34, 46 and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by Daum et al. (U.S. Pat. 7,101,339 hereinafter "Daum").

6. The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

7. Regarding claims 1-4, 6, 9, 11, 14, 16, 25-26, 29-32, 46 and 52, Daum discloses a system that includes a current generator (Col. 2, l. 1), multiple chamber lead placement (Col. 2, ll. 53-54) of paired electrode leads (Col. 2, l. 64), a processor

adapted to compare impedances and to monitor the first, second, and possibly third signal (Col. 1, l. 67 & Col. 2, ll. 3-11), a filter to determine frequencies in the ventilation band (Col. 5, ll. 34-36), a therapy output to provide a pacing pulse (Col. 4, ll. 20-21), a generated ventilation signal (Col. 2, ll. 3-11),

8. Regarding claims 5, 19-20, 28 and 33-34, the system, device and method of Daum is included in a pacemaker/defibrillator and although not explicitly stated, pacemakers and defibrillators inherently have a pulse generator and therapy circuitry.

9. Regarding claims 13 and 15, the system of Daum provides for both left and right heart stimulation and impedance sensing, and thus is inherently creating a transthoracic current field (Col. 2, ll. 50-67).

10. Claims 1-6, 9, 11, 13-16, 19-20, 25-26, 28-34, 46 and 52, are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (U.S. Pub. 2005/0080460 hereinafter "Wang").

11. Wang discloses a method and apparatus for monitoring thoracic impedance in a body using an implantable cardiac device. The device and method include a current generator/ stimulation circuitry (e.g. Fig. 2, "214"), a first pair of electrodes in one chamber ("24", "26"), a second pair of electrodes in a second chamber ("17", "21") and a processor to cross-check impedance measurements using two different impedance measurements (e.g. ABSTRACT; ¶¶ 35-40, 116). Wang further discloses that the impedance information is cross-checked and if there is a difference in the impedances is found then the stimulation pattern changes if there is no change then the impedance stays the same (e.g. ¶¶ 15-16, Claim 64).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 7, 12, 17-18, 21-24, 27, 35-40, 42-45, 47-51, and 53-55 are rejected under 35 U.S.C. 103(a) as being obvious over Wang in view of Hine et al. (U.S. Pat. 7,142,919 hereinafter "Hine").

15. Wang discloses the claimed invention as discussed in detail above including that the system and method can be used internally, externally, or with any type of cardiac rhythm management system and is capable of being configured to a thorax (e.g. Figs. 1 & 3a.). Wang further discloses that the system has a telemetry circuit ("330"), but Wang fails to disclose an impedance monitoring system that includes an activity sensor. However, Hine discloses a lead system that utilizes impedance, transthoracic

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impedance, and acceleration in variable pacing (Col. 6, ll. 1-67). Hine, further discloses the use of two accelerometers with intersecting axis's (Col. 23, ll. 43-56; Col. 26, ll. 15-29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the impedance monitoring system as taught by Wang, with the impedance and acceleration system as taught by Hine, since such a modification would provide the impedance system with more accurate way to determine activity for providing improved pacing during physical activity.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Park et al. (U.S. Pat. 6,928,324).- Discloses that thoracic impedance is proportional to ventilation rate (Col. 15, ll. 27-34; Col. 21, ll. 30-43).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REX HOLMES whose telephone number is (571)272-8827. The examiner can normally be reached on M-F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. H./  
Examiner, Art Unit 3762

/George R Evanisko/  
Primary Examiner, Art Unit 3762